



Solicitation Information

December 7, 2012

**RFQ #7458347**

**TITLE: WIRELESS CLASSROOM INITIATIVE  
RHODE ISLAND DEPARTMENT OF EDUCATION**

**SUBMISSION DEADLINE: JANUARY 7, 2013 AT 10:00 AM (EST)**

Questions concerning this solicitation must be received by the Rhode Island Division of Purchases at [gail.walsh@purchasing.ri.gov](mailto:gail.walsh@purchasing.ri.gov) no later than **December 21, 2012 @ 12:00 noon (EST)**. Please reference the RFP # on all correspondence. Questions should be submitted in a *Microsoft Word* attachment. Questions received, if any, will be posted on the Purchasing website as an addendum to this solicitation. It is the responsibility of all interested parties to download this information.

**Gail Walsh**

**State of Rhode Island Division of Purchases**

**Vendors must register online at the State Purchasing website at [www.purchasing.ri.gov](http://www.purchasing.ri.gov).**

**NOTE TO VENDORS:**

Offers received without the entire completed three page RIVIP Generated Bidder Certification Form attached may result in disqualification.

**THIS PAGE IS NOT A BIDDER CERTIFICATION FORM**

# *Request for Qualifications*

Rhode Island Department of Education  
Wireless Classroom Initiative

The Rhode Island Department of Administration, Office of Purchases, on behalf of the Rhode Island Department of Education (RIDE) is building a list of qualified vendors able to provide a wireless network expansion for Rhode Island schools which will deliver wireless access to every classroom in every public, state-operated charter school in Rhode Island.

## **INSTRUCTIONS AND NOTIFICATIONS TO VENDORS:**

Potential offerors are advised to review all sections of this solicitation carefully and to follow instructions completely, as failure to make a complete submission as described elsewhere herein may result in rejection of the proposal.

Alternative approaches and/or methodologies to accomplish the desired or intended results of this procurement are solicited. However, proposals which depart from or materially alter the terms, requirements, or scope of work defined by this Request will be rejected as being non responsive.

All costs associated with developing or submitting a proposal in response to this Request, or to provide oral or written clarification of its content, shall be borne by the offeror. The State assumes no responsibility for these costs.

Proposals are considered to be irrevocable for a period of not less than sixty (60) days following the opening date, and may not be withdrawn, except with the express written permission of the State Purchasing Agent.

All pricing submitted will be considered to be firm and fixed unless otherwise indicated herein.

Proposals misdirected to other State locations or which are otherwise not present in the Division of Purchases at the time of opening for any cause will be determined to be late and may not be considered. The "Official" time clock is in the reception area of the Division of Purchases.

In accordance with Title 7, Chapter 1.1 of the General Laws of Rhode Island, no foreign corporation shall have the right to transact business in the state until it shall have procured a Certificate of Authority to do so from the Rhode Island Secretary of State (401-222-3040). This will be a requirement only of the successful bidder (s).

Offerors are advised that all materials submitted to the State of Rhode Island for consideration in response to this Request for Proposals will be considered to be public records, as defined in Title 38 Chapter 2 of the Rhode Island General Laws.

Also, Submitters should be aware of the State's MBE requirements, which addresses the State's goal of ten per cent (10%) participation by MBE's in all State procurements. For further information, contact the State MBE Administrator at (401) 574-8253 or [charles.newton@mbe.ri.gov](mailto:charles.newton@mbe.ri.gov). Visit the website <http://www.mbe.ri.gov>

Interested parties are instructed to peruse the Division of Purchases web site on a regular basis, as additional information relating to this solicitation may be released in the form of an addendum to this LOI.

#### Equal Employment Opportunity (RIGL 28-5.1)

§ 28-5.1-1 Declaration of policy. – (a) Equal opportunity and affirmative action toward its achievement is the policy of all units of Rhode Island state government, including all public and quasi-public agencies, commissions, boards and authorities, and in the classified, unclassified, and non-classified services of state employment. This policy applies in all areas where the state dollar is spent, in employment, public service, grants and financial assistance, and in state licensing and regulation. For further information, contact the Rhode Island Equal Employment Opportunity Office, at 222-3090 or via email [raymond.lambert@hr.ri.gov](mailto:raymond.lambert@hr.ri.gov).

Subcontracts are permitted, provided that their use is clearly indicated in the offeror's proposal, and the subcontractor(s) proposed to be used are identified in the proposal.

RIGL 37-13-3.1 State public works contract apprenticeship requirements. \* (a) Notwithstanding any laws to the contrary, all general contractors and subcontractors who perform work on any public works contract awarded by the state after passage of this act and valued at one million dollars (\$1,000,000) or more shall employ apprentices required for the performance of the awarded contract. The number of apprentices shall comply with the apprentice to journeyman ratio for each trade approved by the apprenticeship council of the department of labor and training.

All proposals should include the vendor's FEIN as evidenced by a W-9, downloadable from the Division of Purchases website at [www.purchasing.ri.gov](http://www.purchasing.ri.gov).

Interested parties are instructed to peruse the Division of Purchases website on a regular basis, as additional information relating to this solicitation may be released in the form of an addendum to this RFQ.

#### ARRA SUPPLEMENTAL TERMS AND CONDITIONS

For contracts and sub-awards funded in whole or in part by the American Recovery and Reinvestment Act of 2009. Pub.L.No. 111-5 and any amendments thereto, such contracts and sub-awards shall be subject to the Supplemental Terms and Conditions for Contracts and Sub-awards Funded in Whole or in Part by the American Recovery and Reinvestment Act of 2009. Pub.L.No. 111-5 and any amendments thereto located on the Division of Purchases website at [www.purchasing.ri.gov](http://www.purchasing.ri.gov).

## **Overview/Objective**

The Rhode Island Department of Elementary and Secondary Education (RIDE) is embarking on several bold and aggressive educational reform initiatives as outlined in the Department's Strategic Plan. These initiatives are part of the scope of RIDE's Race to the Top grant which will provide \$75 million to support five systems of reform; Standards and Curriculum; Instructional Improvement Systems; Educator Effectiveness; Human Capital; and School Transformation and Innovation. The Department will build four data platforms to manage the information that will be needed to track student, teacher, and school performance. Thus, the Department will be required to increase technology capacity in Rhode Island districts and schools by making improvements to school and classroom infrastructures. Currently, Rhode Island school buildings have a varying degree of technical capacity.

**It is the intent of this Request for Qualifications (RFQ) to compile a list of qualified vendors that are capable of surveying, purchasing equipment, and installing/upgrading wireless networks across all school system locations. Placement on the resulting MPA does not guarantee any income for vendors.**

The scope of this project is to build upon our existing E-rate funded network infrastructure to provide seamless connection of Wireless Fidelity (Wi-Fi) or compatible standard network devices. Examples of such devices include (but are not limited to): laptops, tablets, netbooks, Wi-Fi enabled handhelds, etc. Due to the complexity and amount of knowledge required for successful placement and configuration, RIDE is seeking vendors capable of providing a complete "turn-key" solution that covers all steps from the initial site survey to equipment acquisition and complete installation, including, if necessary, cabling and upgrades to existing infrastructure. In addition, there may be a limited number of districts in which a post-implementation survey is required to verify that installation meets the requirements of this initiative.

**It is important that vendors on this list will be able to provide all the required services, or be capable of subcontracting with other vendors to provide the required services, that the project requires. All vendors selected must be capable of accommodating any and all districts that contact them for site surveys and services by the deadline set. Once qualified and placed on the list, vendors may not turn away any district that contacts them with an interest in acquiring services from said vendor, and doing so may be considered grounds for immediate disqualification and removal from the list. A list of school districts and their respective sized is available in Appendix A.**

The resulting MPA will be in effect upon issuance of state purchase order (anticipated January 2013) until January 2015, with an option to renew for two additional one year periods, however, RIDE anticipates that all work associated with the Technology Bond will be completed by January 31, 2015.

## **Scope of Work**

The intent of this \$20 million Wireless Classroom Initiative is to expand our existing E-Rate funded network infrastructure by adding wireless connectivity to all classrooms in all public school buildings in Rhode Island. While the bond provides a 5 year window to accomplish this goal, RIDE expects to have all work completed within 24 months of the establishment of this Qualified Vendor List. This timeframe is needed in order to accommodate the rollout of other initiatives being implemented across the state that may be dependent on wireless infrastructure in schools.

The goal of this initiative is to ensure all classrooms have wireless access capability, not an upgrade to existing wireless access infrastructure which already exists and is within the base guidelines set by RIDE. Therefore, priority will be given to schools and districts that do not currently have adequate wireless access capability. Districts that have current generation networking hardware or wireless that already meets or exceeds the baseline requirements will have the opportunity to upgrade if funding is available following those districts/schools currently without wireless access.

Some schools may be eligible to obtain Priority 2 funding from the Universal Services Administrative Services (USAC) for internal connections. A complete list of eligible services can be found at [http://www.usac.org/res/documents/sl/pdf/ESL\\_archive/EligibleServicesList-2013.pdf](http://www.usac.org/res/documents/sl/pdf/ESL_archive/EligibleServicesList-2013.pdf). RIDE will be issuing a FCC FORM 470 application which will allow these schools (listed in Appendix B) the opportunity to use this MPA for those eligible services.

**It is expected that all vendors responding to this Request will be capable of providing a “turnkey” solution that integrates seamlessly into a district/site’s current network infrastructure. The vendor must provide a solution that is either of the same Original Equipment Manufacturer (OEM) and product family that the district has already committed to, or 100% compatible in regards to all aspects of existing infrastructure to maximize sustainability.**

Qualified vendors will be placed a Qualified Vendor List established as a State Master Price Agreement (MPA) and grouped according to hardware they are capable of installing/supporting. Each vendor’s response to this RFQ must include an overview of the equipment they are qualified to install and support.

School districts and Charter schools will contact a minimum of 3 vendors from this MPA (or a higher number if required by their local procurement policies/procedures) for the purpose of having a site survey performed at their requested sites for purposes of obtaining a quote. A State template will be provided for vendors to complete and submit the design and cost information. The completed template will be submitted to RIDE and reviewed by RIDE and the District Technology Administrator. Selection will be based on:

- 1) The compatibility of their plan with existing infrastructure and systems;
- 2) The vendor's timeline for completion of the work; and
- 3) Cost, which will represent no less than 80% of the selection criteria.

RIDE along with district personnel will evaluate the vendors' submission.

The vendor selected to perform the work will be responsible for the installation of a fully integrated wireless network that conforms to the specifications outlined in Appendix C.

Other responsibilities are outlined below:

- It is expected that the vendor will take into account all costs, technicalities, planning, hardware, software, miscellaneous needs, expenses from subcontractors, and necessary labor required to provide a complete "turnkey" solution.
- It is expected that vendors are fully certified and knowledgeable in regards to the physical cabling, hardware, software, installation, and configuration of all items required to implement the solution.
- Vendors contacted for a site survey and subsequent plan/cost proposal are required to do so free of charge. The State of Rhode Island, RIDE, and the individual LEAs will not be responsible for any costs associated with the site survey.
- When contracted to perform any work, the vendor will fully comply with all local and state building codes and regulations pertinent to this work. Failure to do so will be the financial responsibility of the vendor.
- If a vendor determines it needs to sub-contract out portions of the project to complete the work, preference should be given to local Rhode Island businesses.
- Any sub-contractors used by the vendor will be considered an authorized representative of the vendor. Said sub-contractor must carry all assurances, certifications, insurance, and other listed requirements.
- Vendors are expected to be flexible with the times they schedule work. Vendors should be willing to work shifts that do not overlap with normal school days, unless the component of the work is unobtrusive to classes and the daily activities of the school, or the school specifically permits certain work during normal school days.

Anticipated Project Schedule:

January 2013	Master Price Agreement Established
July 2013	All site surveys must be completed and final quotes submitted to RIDE
August 2013	Contracts awarded to vendors
January 2015	All site work expected to be completed

Please note that this schedule is included for reference only. When preparing timelines, vendors should take these tentative dates into account. Start date is subject to the date the state

purchase order is issued. RIDE reserves the right to modify the schedule as it deems necessary, with the option to grant extensions at its sole discretion.



## **Vendor Requirements and Qualifications**

All vendors must demonstrate their qualifications to provide the necessary products and services by providing evidence that they fulfill the requirements set below in their response to this RFQ. Vendors may provide additional information if needed for a full and complete response.

### **Company/Staff Experience**

- Comprehensive experience designing enterprise-grade wireless networks on a large scale;
- Experience designing and configuring wired/"backbone" infrastructure necessary to support a large scale wireless network;
- Experience acquiring all necessary hardware and software related to the points above or subcontracting with other companies to acquire said hardware and software; and
- Experience with the final installation of all aspects of both wired and wireless infrastructure related to the points above or subcontracting with other companies to do so.

### **Work Plan: Business and Technical Information**

- Demonstrates an understanding of the necessary networking concepts;
- Provides a project plan from past successful implementations, including timelines;
- Communicates the steps required in implementing the overall proposed solution;
- Conveys the maximum operating capacity the vendor independently maintains and assures that they are capable of completing the project within the given deadlines, utilizing sub-contractors if necessary (vendor should plan for the case where surveys and work for all districts are their responsibility);
- Anticipates technical or any other problems/limitations that can arise during implementations;
- Provides a list of equipment and hardware manufacturers that the vendor is qualified to install and support (Appendix D);
- Provides no less than references from similar implementations;
- Provides a plan for surveying sites, identifying technology required to carry out the plan, and explaining how it will integrate with the existing infrastructure; and
- Provides a detailed summary of how the vendor handles warranties on its products and services.

### **Clarifications and Potential Demonstrations**

At any point during the review process, the vendor may be asked to provide additional information to clarify/correct their submissions for qualification. Clarifications/corrections provided in response to such a request by RIDE shall be considered part of the original submission. The vendor must commit contractually to all claims and statements made in the submission.

Vendors may also be asked to provide a clarification or presentation regarding their submission in response to this Request, following evaluation of the written submissions.

### **Additional Requirements/Qualifications**

- Vendors must submit a letter of transmittal signed by an owner, officer, or other authorized agent of the vendor
- Vendors must submit relevant organizational information, a list of similar projects undertaken and/or clients serviced, a list of sub-contractors previously utilized, agency expertise relative to the services requested, and a statement of existing workload and capacity as it impacts the performance of this project.
- Vendors must submit satisfactory proof of insurance in regards to the requirements of this project.
- Vendors must provide an overview of key personnel that will be assigned to work on this project including education and prior experience.
- Vendors must disclose any work that they expect to be sub-contracted, including, if known, the specific work to be performed.
- Vendors must disclose any formal complaints and/or lawsuits filed against them within the last five (5) years.
- Vendors must provide a list of sub-contractors that the vendor works with, including those that are RI-certified as a Minority Business Enterprise (MBE)

### **Terms**

Vendors that successfully apply and are placed on the qualified vendor list agree that they must perform a survey and provide a detailed quote, at no cost, for all districts that contact them for service. The scope of work must be approved by RIDE, in collaboration with LEAs, prior to the start, and may be modified by RIDE, in collaboration with LEAs prior to beginning work on a given task. Any deficiencies in performance of services and/or failure to supply deliverables in a timely manner will be documented by RIDE. Should a pattern of substantial dissatisfaction become apparent at any stage of the project, RIDE reserves the right to terminate any contracts awarded and remove the vendor from the MPA.

## **Application Submission**

Questions concerning this RFQ can be submitted to the Division of Purchases via email at [gail.walsh@purchasing.ri.gov](mailto:gail.walsh@purchasing.ri.gov) no later than the due date for responses to this RFQ. All questions must be submitted in Microsoft Word format. Please reference this RFQ in all correspondences. Questions received, if any, will be answered in the form of an addendum to this RFQ and posted on the Internet. It is the responsibility of all interested parties to download this information. For technical assistance, contact the help desk at (401) 222-3766.

Responses (original + five (5) copies plus a CD containing a digital copy) should be mailed or hand-delivered in a sealed envelope marked "*RFQ #7458347 - Wireless Classroom Initiative for RIDE*" to:

Division of Purchases, 2<sup>nd</sup> Floor  
One Capitol Hill  
Providence, Rhode Island 02903

NOTE: Proposals received after the above-referenced due date and time may not be considered. Proposals misdirected to other State locations or which are otherwise not present in the Division of Purchases by the scheduled due date and time will be determined to be late and will not be considered. Proposals faxed, or e-mailed, to the Division of Purchases will not be considered. The "official" time clock is located in the reception area of the Division of Purchases.

### **The vendor application must include:**

- A Statement of Qualifications that addresses all information outlined in the "Vendor Requirements and Qualifications" section of this document;
- All documentation listed in the "Additional Requirements/Qualifications" section;
- At least three (3) references for which the vendor has successfully implemented a full wireless networking solution. All references must include a contact and telephone number; and
- Any additional documentation, supplemental to the Statement of Qualifications, which demonstrates the vendor's background or history of working on similar projects.

**All document pages should be numbered in consecutive order.**

### **Technical Review Criteria**

A number of factors will influence RIDE's decision in determining whether or not a vendor is qualified. These factors include:

Company Qualifications	20 Points
Understanding of the Work	20 Points
Work Plan/Business and Technical Experience	25 Points
Experience and Availability of Key Personnel	20 Points
Capacity of the Vendor to Effectively Administer the Project	10 Points
Vendor State Presence, including subcontractors and RI-certified Minority Business Enterprises	5 Points
Total	<b>100 Points</b>

**A minimum of 70 points is required for placement on the list of qualified vendors for this project.**

These factors include a technical evaluation based on the vendor's operating capacity to perform all work in a timely manner. Equally important is a vendor evaluation based upon vendor reputation, past performance with similar projects, service and support resources, knowledge of policies and procedures, etc.

# **APPENDIX A**

## **SCHOOL DISTRICTS AND NUMBER OF SCHOOLS IN RHODE ISLAND**

<b>District Name</b>	<b>Schools</b>	<b>Students</b>	<b>Charter Name</b>	<b>Schools</b>	<b>Students</b>
Barrington	6	3400	Beacon Charter School	1	226
Bristol Warren	6	3469	Blackstone Academy	1	166
Burrillville	5	2442	Blackstone Valley Prep	3	522
Central Falls	6	2677	Davies Career and Tech	1	833
Chariho	7	3486	Highlander	1	296
Coventry	7	5098	International Charter	1	326
Cranston	23	10622	Kingston Hill Academy	1	179
Cumberland	9	4658	Learning Community	1	534
East Greenwich	6	2376	MET Career and Tech	1	751
East Providence	12	5420	Paul Cuffee Charter School	1	630
Exeter-West Greenwich	5	1754	R.I. School for the Deaf	1	69
Foster	1	283	RI Nurses Institute	1	133
Foster-Glocester	2	1233	Segue Institute	1	201
Glocester	2	579	The Compass School	1	162
Jamestown	2	488	The Greene School	1	121
Johnston	8	3062	Trinity Academy	1	68
Lincoln	6	3270	Urban Collaborative	1	141
Little Compton	1	293	<b><u>Total</u></b>	<b><u>19</u></b>	
Middletown	5	2367			
Narragansett	3	1434			
New Shoreham	1	114			
Newport	6	2062			
North Kingstown	8	4339			
North Providence	9	3274			
North Smithfield	4	1714			
Pawtucket	16	8685			
Portsmouth	4	2687			
Providence	41	23308			
Scituate	5	1548			
Smithfield	6	2400			
South Kingstown	8	3457			
Tiverton	5	1865			
Warwick	23	9890			
West Warwick	6	3444			
Westerly	6	3036			
Woonsocket	10	5917			
<b><u>Total</u></b>	<b><u>280</u></b>				

## **APPENDIX B**

### **CURRENT LIST OF PRIORITY 2 SCHOOLS IN RHODE ISLAND**

Schools in Rhode Island are considered eligible for Priority 2 funding based on their school lunch data, specifically the number of free and reduced lunch-eligible students.

For information regarding USAC and Priority 2 eligible services, please go to:  
[http://www.usac.org/res/documents/sl/pdf/ESL\\_archive/EligibleServicesList-2013.pdf](http://www.usac.org/res/documents/sl/pdf/ESL_archive/EligibleServicesList-2013.pdf)

The following school districts and their respective schools currently qualify for Priority 2 funding:

#### **Central Falls**

Ella Risk School

Capt. G. Harold Hunt School (includes Fairlawn School)

Margaret I. Robertson School

Veterans Memorial Elementary

Central Falls Senior High School

Dr. Earl F. Calcutt Middle School

#### **Providence**

Alfred Lima, Sr. Elementary Annex

Frank D. Spaziano Elementary School Annex

Dr. Jorge Alvarez High School

Asa Messer Elementary School

Alan Shawn Feinstein Elementary at Broad Street

Alfred Lima, Sr. Elementary School

Charles N. Fortes Elementary School

Webster Avenue School

Veazie Street School

Birch Vocational Center

Frank D. Spaziano Elementary School

George J. West Elementary School

Esek Hopkins Middle School

Robert F. Kennedy Elementary School

Central High School

Carl G. Lauro Elementary School

Reservoir Avenue School

Gilbert Stuart Middle School

Nathanael Greene Middle School

#### **Cranston**

Arlington School

#### **Newport**

Dr. M. H. Sullivan School

#### **Pawtucket**

Joseph Jenks Junior High School

Samuel Slater Junior High School

Curvin-McCabe School

Shea Senior High School

Henry J. Winters School

Elizabeth Baldwin School

M. Virginia Cunningham School

Agnes E. Little School

### **Woonsocket**

Governor Aram J. Pothier School

Fifth Avenue School

Woonsocket Middle School

Citizens Memorial School

Kevin K. Coleman Elementary School

### **Charter Schools**

RI Nurses Institute Middle College Charter High

Paul Cuffee Charter School

Blackstone Academy Charter School

The Learning Community Charter School

Segue Institute for Learning

Roger Williams Middle School

Mount Pleasant High School

William D'Abate Elementary School

Robert L Bailey IV, Elementary School

Lillian Feinstein Elementary, Sackett Street

Mary E. Fogarty Elementary School

Harry Kizirian Elementary School

The Sgt. Cornel Young, Jr & Charlotte Woods Elemen

Dr. Martin Luther King, Jr. Elementary School

Pleasant View School

Urban Collaborative Accelerated Program

Times2 Academy

Academy for Career Exploration (ACES)

Anthony Carnevale Elementary School

Governor Christopher DelSesto Middle School

E-Cubed Academy

William B. Cooley, Sr. High School and the Provide

Providence Career and Technical Academy

Hope Information Technology School

Hope Arts School

Trinity Academy for the Performing Arts

## **APPENDIX C**

### **Minimum Specifications of the Wireless Solution**

**VENDOR NOTE:** This document contains a sample of what vendors will be responsible for as well as what the minimum specifications for the wireless solution will be. While no major changes are planned before the final version is released, some modifications may be made. The following is for reference only, so vendors may get an idea of exactly what the end result of this project should look like across all schools.

#### **Vendor Steps**

Vendors are expected to perform the following steps when conducting site surveys:

1. Obtain a facility diagram in order to identify the potential RF (Radio Frequency) obstacles.
2. Manually inspect the building and materials to determine initial RF propagation expectations and hardware mounting concerns.
3. Determine preliminary Access Point locations. Considerations include:
  - a. Wired network access, cell coverage and overlap, channel selection, and mounting locations for the Access Point and any external antennas (if required).
  - b. The final ratio of Access Points to wireless users should be approximately 25:1.
  - c. Cell coverage overlap should be approximately 15 to 20%.
  - d. A signal-to-noise ratio of at least 25dBm should be maintained throughout the solution.
4. Perform the actual surveying in order to verify Access Point locations. Vendors should make sure to use the same Access Point model for the survey that will be used in the final wireless solution. When the survey is performed, relocate Access Points as deemed needed and re-test.
5. Based on optimal Access Point location, determine the most efficient way to route cabling back to an MDF/IDF. If no access to the wired network is available within maximum range of the cable, determine where new IDFs or junctions should be placed.
6. Inspect the MDF/IDFs and determine what hardware needs to be installed. Considerations include:
  - a. Hardware must fully integrate with the existing network.
  - b. Minimum power requirements if current hardware needs to be upgraded or replaced.
7. Document the findings. Record the locations and log signal readings for each Access Point, as well as data rates at outer boundaries. Prepare a map or detailed summary of



how many cable drops are needed and where, what infrastructure needs to be installed, and what electrical changes need to be made in the MDF/IDFs. Documentation should also identify any existing hardware that can be re-used for the wireless platform, and any hardware that would be rendered unusable.

### **Detailed Specifications**

The following sections provide detailed specifications that all vendors should adhere to when designing a WLAN solution for each building/site.

#### **Section 1 - Specifications for the Wireless Controller and Access Points**

The vendor must provide a WLAN solution meeting the following requirements at a minimum:

- Dual-radio, dual-band wireless access points with 802.11a/n (5 Ghz) and 802.11b/g/n (2.4 Ghz) connectivity with MIMO (Multiple-In-Multiple-Out) capability for 802.11n.
- Access points must be powered by IEEE standard PoE (802.3af) or PoE+ (802.3at).
- Access points must support tunneled traffic.
- Full redundancy is required throughout the wireless platform. All wireless security and services must continue to function if connectivity to the controller is lost. Backup controller must have sufficient capacity to manage all Access Points when a failure occurs in a primary controller.
- Wireless platform must support an 802.1X supplicant to prevent use by unwanted devices.
- Wireless platform must support latest secure authentication and encryption standards.
- Wireless platform must be capable of supporting a customizable, centralized Captive Portal
- Access point must support automatic channel selection and transmit power controls. Optimal channel selection must be reconfigured dynamically and without the need for user action.
- Upon failure of an Access Point, the Wireless controller must expand neighboring Access Point coverage to eliminate any uncovered areas.
- QoS (Quality of Service) must be supported throughout the entire solution proposed by the vendor.
- Access Points must support multiple SSIDs and fast, secure roaming and handover.
- Solution must support location-based services providing an API to integrate location and presence capabilities with third-party applications.
- Solution must support GUI-based management.

#### **Section 2 – Specifications for Switching and Infrastructure**

Vendor bid specifications must provide a stackable and/or blade expandable style switch family with the following minimum specifications:

- Multiple port density configurations from 12 to 384 ports (48 per switch \* 8 switches) depending on number of Access Points required.
- Multiple connectivity options comprised of 10/100/1000 Ethernet ports, and fiber (1/10Gb).

- All applicable ports providing connectivity to an Access Point must provide power in accordance with IEEE standard 802.3at (PoE+) and support gigabit throughput to each AP simultaneously.
- Switch stacks must operate as a single managed device regardless of stack size (applies to throughput, management, and overall performance) via a single IP address.
- Switches must not use ports from the user's available port density to create said stacks. Dedicated connections and bandwidth for traffic between switches in the stack is required.
- Must store source IP address, MAC address, host name, user name, and activity status for all ports.
- Must support ARP broadcast protection.
- Must support BPDU port protection.
- Must support Ingress Rate Limiting
- Must support QoS via all common industry standards.
- Must support IEEE 802.3ad Link Aggregation with at least 8 ports per LAG
- Must support Closed Loop Stacking
- Must support redundant stack management
- Must support external load-sharing and redundant power options
- Must support IEEE 802.1x User Authentication
- Must support MAC and Web-based (PWA) authentication
- Must support MAC Port Locking (Dynamic and Static)
- Must support RFC 3580 (Dynamic VLAN Assignment based on 802.1x or MAC authentication with at least 8 RFC 3580 authenticated users per port
- Must support secure management via SSHv2, SSL, SNMPv3, AES and RADIUS
- Must support the following RMON groups: Statistics, History, Alarms, Events, Filters, Packet Capture
- Must support Many-to-One and One-to-One Port Mirroring
- Must support configuration for Secure Guest Access without requiring use of VLANs or ACLs
- Must support configuration for K-12 embedded AUP without requiring VLANs or ACLs
- Must support IEEE 802.1s & 802.1w Spanning Tree related standards.
- Must support IGMP Snooping v1/2/3
- Must support IEEE 802.1q encapsulation for VLANs, port-based VLANs, protocol-based VLANs and tagged-based VLANs with full support for the GARP and GVRP protocols.

### Section 3 – Bid Specifications for Network Cabling and Interconnects

As part of the turnkey installation, the physical network connections must meet the following:

- All copper cabling should be Cat6 or greater and be certified for gigabit throughput. No cable shall exceed its maximum recommended length (i.e. 100m for Cat6) including any patch cables at termination points.
- All Fiber Optic cabling shall provide a minimum of 3 separate links per run (6 strands).
- Cabling will interface with existing network backbone at core junction points.
- Cabling will terminate into patch panels and/or network boxes with appropriate faceplates and keystones. All terminations shall be done with the appropriate end connectors or patch panels (Cat6 or greater).
- Cabling below a ceiling is to be placed into conduit and properly terminated into network boxes with appropriate faceplates and keystones. Existing building conduits may be

utilized where available/appropriate. Low voltage Ethernet should not be ran through the same conduit as high voltage lines.

- After installation, all cabling must be tested to verify connectivity between MDF/IDFs and Access Points, to ensure that all runs have been installed and terminated correctly, and that the run meets industry standards regarding crosstalk and packet loss.
- All wall penetrations must be properly sealed according to Fire Marshall specifications.
- Cables and panels must be appropriately labeled and easily traced using a schema agreed upon with the individual School District's IT Department.
- Vendor must provide a post-installation schematic detailing all cabling routes and termination points.

#### Section 4 – Post Installation System Training

Following the successful completion of the project, the vendor is to provide a minimum of one day of training on the proper configuration, daily operation, and maintenance of the system.

This training shall be performed on-site at a mutually agreed upon date at the local school district's requested sites. The training will be for no more than 10 individuals who work directly for, or closely with the Technology Department. This training session may be recorded on audio & video.

The vendor will provide at minimum 2 copies of all installation, configuration, and training materials. This includes any and all materials offered by the vendor deemed to be helpful in the day to day operations of the system. In addition, a digital copy of these materials would be preferred but not required.

#### Section 5 – Other Related Bid Specifications

The proposed contract should include three years of warranty on all aspects of this RFP. This includes warranties on all equipment and items associated with the installation. It is understood that if purchased with E-rate funding, any ineligible warranties will be excluded from the contract or purchased with non-Erate funds. Quoted prices must remain effective for the entirety of the E-rate year for which the application was made (July 1- June 30).

The successful vendor will be required to participate in the Universal Service Fund (USF) and will provide the appropriate discounts if applicable to this project. The successful vendor also agrees to file Form 474 (Service Provider Invoice) to collect the USF portion of the funded project and will bill the individual school district only for the discounted portion and for non-eligible items. If the individual school district does not receive USF funding for this project, the school district may choose not to purchase these services. Please provide your SPIN identification number and USF listed company name. The vendor must also provide, at the end of the annual contracted period and without additional cost, a complete copy of all serviced bills from all contacted locations, for use in facilitating USF applications.

**APPENDIX D**  
**Additional Vendor Information**

This form is designed to provide additional information about vendors. Information provided does not guarantee vendor qualification or disqualification. All responses will be made available to school districts with the final version of the MPA.

Company Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_

Please indicate the Original Equipment Manufacturer(s) hardware your company is qualified to install and support.

- |                                   |                                    |
|-----------------------------------|------------------------------------|
| <input type="checkbox"/> Cisco    | <input type="checkbox"/> Meraki    |
| <input type="checkbox"/> Aruba    | <input type="checkbox"/> Other(s): |
| <input type="checkbox"/> HP       | _____                              |
| <input type="checkbox"/> Extreme  | _____                              |
| <input type="checkbox"/> TrendNet | _____                              |
| <input type="checkbox"/> Juniper  | _____                              |

Please list any industry-standard certifications/endorsements that your company or managing employees hold.

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Please list any Rhode Island school districts that your company has worked for in the past.

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**This page must be included in responses to this RFQ for a vendor to be considered for qualification.**